

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 05 JANUARY 2007 (05.01.2007)

Applicant's or agent's file reference
PX0004PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2006/001409

International filing date (day/month/year)

17 APRIL 2006 (17.04.2006)

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC

C12M 3/00(2006.01); C12M 1/40(2006.01); C12N 5/08(2006.01); C12M 1/00(2006.01);

Applicant

CHABIOTECH CO., LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☐ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

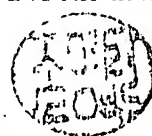
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Date of completion of this opinion
05 JANUARY 2007 (05.01.2007)

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2006/001409

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2006/001409

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement:

| | | | |
|-------------------------------|--------|-------|-----|
| Statement | | | |
| Novelty (N) | Claims | none | YES |
| | Claims | 1 - 6 | NO |
| Inventive step (IS) | Claims | none | YES |
| | Claims | 1 - 6 | NO |
| Industrial applicability (IA) | Claims | 1 - 6 | YES |
| | Claims | none | NO |

2. Citations and explanations:

1. Reference is made to the following documents:

D1 : Cha, K. et al. Fertility and Sterility Vol.84 Supplement 1, Sep. 2005, pages S351

S352

D2 : Yoon, T. K. et al. Fertility and Sterility Vol.84 Supplement 1, Sep. 2005, page

S176

D3 : Kim, H. G. et al. Fertility and Sterility Vol.82 Supplement 2, Sep. 2001, page S25

2. The present application relates to methods of vitrification of human oocytes by directly exposing the oocytes to nitrogen slush on a transfer instrument. It further claims the human oocytes undergone said vitrification process. D1 teaches that the survival and fertilization rates of human oocytes after vitrification/thawing steps were highly increased by the vitrification procedure using gold grid and slush-liquid nitrogen, compared to the case performed with conventional liquid nitrogen. D2 also explains the vitrification process using gold grid and slush-liquid nitrogen produced improved survival/fertilization rate of human mature oocytes possibly due to higher cooling rate of slush-liquid nitrogen. D3 reveals the effect of slush-liquid nitrogen and sodium depleted medium on the survival rate of human oocytes.

3. Novelty and Inventive step

The subject matter of claims 1-6 does not meet the requirement of novelty and inventive step in PCT Article 33(2) and (3), since D1-D3 all disclose the same technical feature of vitrification process of human oocytes in claim 1-3, 5 and 6, and the human oocytes claimed in claim 4 of the present application.

4. Industrial applicability

Claims 1-6 meet the requirements for industrial applicability in PCT Article 33(4)